DOCUMENT RESUME

ED 255 708 CE 041 197

AUTHOR Davis, Scott R.; Frost, Alan
TITLE Competency-Based Education for Adult Learners.
PUB DATE [85]
NOTE 11p.
PUB TYPE Viewpoints (120)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Adult Education; *Adult Learning; Andragogy; Behavioral Objectives; Classroom Techniques; *Competency Based Education; Instructional Materials; Learning Activities; Material Development; Postsecondary Education; Program Implementation; Teaching Methods

ABSTRACT

This paper contains a concise summary of the theory and practice of competency-based education, especially as it applies to adult education. The paper first defines competency-based education (CBE) and details the assumptions on which CBE is based. It then lists the critical components for effective CBE and cites the advantages of using a competency-based unit of instruction. The organization of learning activities in a CBE program is explained in the next section and illustrated with a flowchart. The paper then provides suggestions for developing competency-based learning materials, achieving learning objectives, and presenting material. The final section of the paper advocates the application of CBE to adult learning and enumerates reasons why the CBE approach is preferred. (KC)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED255708

COMPETENCY-BASED EDUCATION FOR ADULT LEARNERS

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☑ This document has been reproduced as received from the person or organization originating it.
☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

S Davis
A Frost

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

PREPARED BY:

SCOTT R. DAVIS, CHIEF OF VOCATIONAL EDUCATION
DEPARTMENT OF CORRECTIONS
103 SOUTH MAIN STREET
WATERBURY, VERMONT 05676

ALAN FROST, VOCATIONAL INSTRUCTOR
DEPARTMENT OF CORRECTIONS
RUTLAND COMMUNITY CORRECTIONAL CENTER
RUTLAND, VERMONT 05701

CE034197

WHAT IS COMPETENCY-BASED EDUCATION?

Competency-based education (i.e., CBE) is a term used to define an educational process that is based on task or objective statements that are written for identified units of instruction. First applied to teacher education in 1968, competency-based education has since been increasingly applied to many vocational and academic programs in Vermont.

CBE personalizes learning programs to the extent that the instructor becomes attuned to an individual's learning pattern in a manner often not possible in a group teaching situation. Group instructing forces the instructor to generalize the learning process to accomodate the group's identity, creating disadvantages for some individual learners. Competency-based education individualizes instruction. It does not mean one-on-one instructing, but rather is the structured organization of learner activity designed to optimize the effect of direct instructor contact with any individual learner.

DEFINITIONS

To better understand competency-based education, the following definitions are offered:

1. Performance-Based Instruction:

   Instruction which, when properly designed and applied, results in the learner demonstration of certain abilities. The desired abilities are selected before the instruction is designed and are clearly defined as observable, measurable behaviors.

2. Performance Objective:

   A statment in precise measurable terms of a particular behavior to be exhibited by a learner under specified conditions. It states the condition, specific behavioral outcome, and standard of acceptable performance.

3. Performance (i.e., Observable Terminal Behavior):

   A very clear statement of exactly what the learner will be able to do after the mastery level is reached.

4. Condition:

   Any and all limits or circumstances under which the learner will perform a behavioral objective or competency.

BEST COPY AVAILABLE

5. Criterion:

The minimum standard that a learner must meet in order to reach mastery of an objective (i.e., competency).

6. Competency:

A label given to the result of a comparison of a particular performance or behavior with a static performance standard or behavioral criterion. Competence is an acquired ability or skill, or task associated with a particular occupation.

7. Open Entry, Open Exit:

A scheduling approach allowing learners to enter, leave, and re-enter educational programs at any time. Completion of a program of study is possible whenever the learner is able to demonstrate competency in selected objectives.

ASSUMPTIONS

CBE relies on the following assumptions:

1. The skills and knowledge that learners master should be directly related to the duties and responsibilities they will have to perform on a job, or to the appropriate content area to be learned.

2. The skills and areas of knowledge, and the means for evaluating their attainment, should be specified in advance and made known to the learners.

3. Learners should be provided with whatever instructional experiences they need to attain the skills, knowledge, and abilities necessary for instructional curricula.

CRITICAL COMPONENTS FOR EFFECTIVE COMPETENCY-BASED EDUCATION

In order to properly and effectively prepare performance objectives and occupational competencies, four critical components are needed. There needs to be the following built into all effective Comptency Based Education programs:

- A determination of which competencies (objectives) to be used
- Inclusion of the criterion or standard to be attained
- Assumptions about the learner aptitude so that prerequisite(s) to the learner's being able to understand and to learn from the objective are considered.
- Incorporation of the appropriate rhetoric and consistency of the model so that all objectives and competencies include a performance, standard, and condition as necessary.

BEST COPY AVAILABLE

ADVANTAGES OF USING A COMPETENCY-BASED UNIT OF INSTRUCTION

1. All resources are focused toward a measurable goal.
2. Instructor and learner can work toward specific measurable goals.
3. Individual needs of learners are more easily identified and met.
4. Expectations of instructor and learner are more clearly defined.
5. Standards for self-evaluation (learner and instructor) are provided.
6. Clear evidence of progress, or its absence, are provided.
7. Open entry/open exit enrollment is more easily accomodated.
8. More easily understood communication between program and employer is obtained.
9. Validity of course substance allowing for stricter accountability is more easily certified.
10. Curriculum is more easily managed.
11. Programs can be refined through revisions of small units.
12. Learners tend to be more highly motivated.

ORGANIZATION OF LEARNING ACTIVITIES

The transient nature of many student bodies creates the necessity for an open entry/open exit structure that makes possible individual programming. The structure allows students in a group to work independently following a clearly defined and understood path of action in an environment that generates peer group support. The responsibility for learning is placed on the learner. This helps to build learner credibility in the value of the program.

The design of such a structure must allow for certain conditions to be met:

1. There should be a linear progression that can be represented in a form easily understood by the learners.
2. The operation of the structure should create an environment in which learning can take place.

BEST COPY AVAILABLE

3. The material should be presented in achievable steps, and where possible be based on existing knowledge.

4. Each step should be clearly perceived as an advance within the structure.

5. Where the structure contains more than one line of progress, lateral movement should be possible to avoid equipment overloads.

In operation, a properly engineered structure will appear to an observer as an informal activity. The teacher will be a point of reference to assist in clarifying individual problems with program material. Because of the open entry/open exit situation, students could be simultaneously working on every level of each component of the program. This situation has advantages in that it allows the use of peer group tutors. This helps generate learner interaction and support and reinforces learning in those designated to assist with instruction. It also reduces the direct demand for the instructor's attention allowing them more time to constructively observe, control, and correct the activities of learners within the group.

The flow of activity from task to task should be continuous so that there is no reason for inactivity or procrastination on the part of learners. Any such pattern of behavior can then be regarded as a symptom of attitude or learning avoidence that needs to be addressed through individual counseling.

New learners entering a program need a definitive orientation that illustrates how the program operates, the average time frame for completion, and establishes the instructor's expectations of the learner's conduct and involvement.

The overall program structure is most readily communicated to learners of all abilities with the use of a flow chart. The flow chart in Fig. 1 outlines the progression through a machine trades program.

BEST COPY AVAILABLE

Fig.1. Machine Trades Outline

BEST COPY AVAILABLE

In order to select or develop suitable materials to support the program structure, we first need to identify what the competencies are for the area in question. Once identified, each competency can be broken down into isolated mechanical skills and essential related knowledge. Fig. 2 illustrates how a flow chart can be used to analyse the components of a subject area. In this chart the performing of arithmetic operations has been regarded as a mechanical skill as it requires the interpretation and application of essential concepts. The outline in Fig.1 represents a program of study containing several courses. The cumalative set of knowledge and skills identified in Fig 2 becomes the curriculum (what it is intended should be learned) for a course on arithmetic.

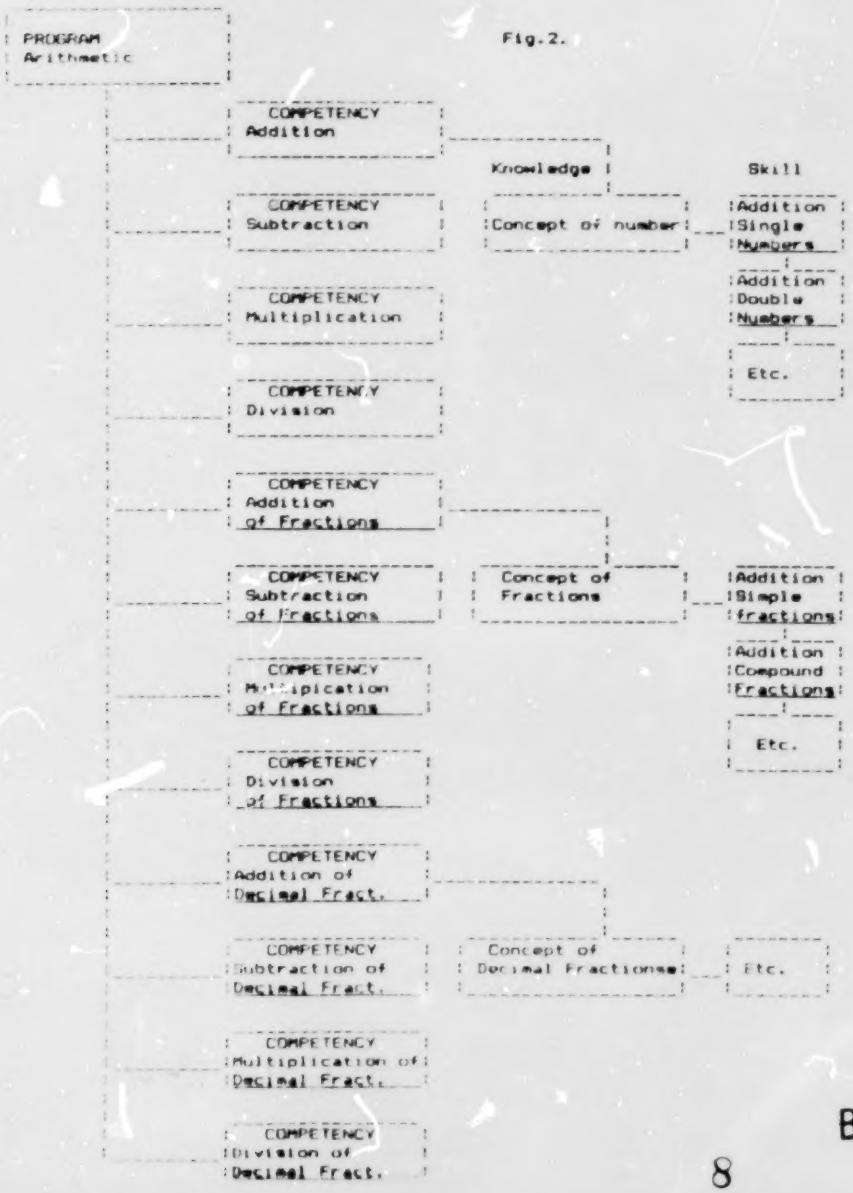

Fig.2.

BEST COPY AVAILABLE

ACHIEVING THE OBJECTIVES

Having defined our curriculum we need to identify existing or create new materials that will expedite its acquisition. The ground rule in preparing or selecting any learning material is to "Build on sound foundations", and never assume prior knowledge. Materials used should accomplish the following criteria:

1. Exercise a prior skill or concept.

2. Introduce a new or related aspect of the skill or concept.

3. Give practice in the combined use of existing and new skills or concepts.

The next step is to define how we will determine that a competency has been mastered. A competency has three components:

1. The ability to perform the mechanical skill. (Observable Terminal Behavior).

2. The ability to perform the operation using specific materials and equipment. (Condition)

3. Accuracy in performing the operation. (Standard or criterion)

For example:
Manually calculate the answers to fifty three figure two line addition problems with one hundred percent accuracy.

In this case the observable behavior is the calculation, the condition is by manual calculation and the standard is one hundred percent correct.

A similar but very different competency would be:

Calculate with the aid of an electronic calculator the answers to fifty three figure two line addition problems with one hundred percent accuracy.

Here the standard or criterion is identical and the observable behavior requires the same understanding of arithmetic functions. The condition, however, links the skills of calculator operation to the competency and therefore changes its nature.

BEST COPY AVAILABLE

PRESENTATION OF MATERIAL

Having selected or created new material and defined our competencies we have to consider its presentation and organization. The presentation of the material is an integral part of the first topic "Organization of learning activities." The assembly order of the material should display the linear progression of the program outline and follow the sequence identified in the development flow chart (example Fig. 2). A master file containing all the text, worksheets, and practical test pieces should be assembled. A front sheet should be created for each program section stating in which order the tasks are to be attempted. This file is then used during learner orientation to establish the method of working and illustrate the way in which progress is made. Worksheets and practical test drawings are stored within the work area in the same order as the master file. Learners are free to access the material and subject to satisfactory completion of a task may proceed to the next. Each learner will in this way create his/her own file of completed work as evidence of personal progress.

APPLICATION TOWARD ADULT LEARNING

The andragogical model of adult learning as proposed by Malcolm Knowles contains several assumptions that allow CBE to be effective with adults. The competency-based education concept is particularly applicable in adult education programs since Knowles proposed that:

1. Adults move from a dependent personality to a self-directing person, implying that adults who make decisions affecting their lives are capable of planning and implementing their own learning. Competency- based education allows for more definitive goal setting.

2. Adults accumulate a vast reservoir of experience that may offer a great resource for learning. Competency-based instruction can be designed to take advantage of an adult's life experiences and expertise.

The time a person needs to examine a problem, respond to a task, or recall information decreases with age. Adult learning activities should have few, if any, time constraints as optimum performance usually results when adults are allowed and pace their own learning. Competency-based education allows self-pacing to easily occur.

BEST COPY AVAILABLE

REFERENCES

Shumate, G. Our Approach is CBI. Voc Ed, September 1984, pp. 36-37.

Wooldridge, R. A Flow-Chart for Developing Competency-Based courses in vocational education. Industrial Education, April 1984, pp. 21-22, 25.

Knaack, W.C. Competency-Based Vocational Education: A review (1977).(Eric Contract #NIE-C-400-76-0122 Info. Series No. 115).

Broules, K. Phillips, R. Shoemake, C. A catalog of performance objectives, criterion-referenced measures and performance goals for gardening-grounds keeping (1976). Vocational-Technical Education Consortium of States, Atlanta, GA.

Daniels, N.C. A Catalog of performance objectives and performance grades for cabinetmaker (1981). Vocational-Technical Education Consortium of States, Atlanta, GA.

BEST COPY AVAILABLE